

POLLUTION REPORTS

8/12/91-11/22/92

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

Date: August 12, 1991

From: Robert Bornstein, OSC
Emergency Response Section, Region IX

To: Director, ERD-HQ
Don White, FOB, Region IX
Polrep Distribution

Subject: Bluewater Uranium Mine Sites, Prewitt,
New Mexico.

Polrep: Polrep 1

II. BACKGROUND

Site No: W3 Delivery Order No: N/A(*)

Response Authority: CERCLA NPL Status: Pending

State Notification: NMDMM and Navajo Nation notified

Action Memo: Signed and Concurred by HQ 7/26/91

III. INCIDENT INFORMATION

A. Incident Category

Abandoned, unreclaimed uranium mines

B. SITUATION

1. Site Description

The Bluewater Uranium Mine Sites are composed of the Brown-Vandever, Brown-Nanabah and Navajo-Desiderio Mines. The Sites are located approximately five miles west of Prewitt, New Mexico and lie within the Grants Uranium Mining District. The Brown-Vandever and Brown-Nanabah mines are located on four parcels of land which includes two Indian Allotment parcels, one Federal parcel administered by the Department of Energy and one privately owned parcel. The Brown-Vandever site encompasses approximately 100 acres and the Brown-Nanabah site is approximately 55 acres. Half of this area has been disturbed and scarred as a result of open pit mining of uranium. The Desiderio site covers approximately 130 acres with approximately 60 acres disturbed by mining activities.

Several families live and work on both sites. Approximately forty people, including children, live at the

Brown-Vandever and Brown-Nanabah sites. About thirty people live within a half mile of the Desiderio site. The land is primarily utilized for livestock (sheep) grazing.

Presently, there are no restrictions preventing the local population or livestock access to the mine tailings and overburden.

C. PRELIMINARY ASSESSMENT RESULTS

At the request of the Agency for Toxic Substances and Disease Registry (ATSDR) and the Navajo Superfund Program, EPA ERS was requested to assess the radiological conditions at the sites and to evaluate if a removal action was warranted. A radiological assessment was conducted in November of 1990 by EPA ERS and assisted by the Office of Air and Radiation, Las Vegas.

Background gamma radiation readings, taken approximately two miles from the mine site ranged from 10-15 microroentgens per hour (uR/hr). On site at the Brown-Vandever and Brown-Nanabah sites, readings at ground level ranged from 13 uR/hr at the homes to 1250 uR/hr within stripped mine pits and 10 uR/hr to 650 uR/hr at waist levels, respectively. Overall, gamma reading within the scared mined areas were recorded to be 300 uR/hr at ground and waist level reading above 200 uR/hr. At the Desiderio site, the net radiation levels ranged from background to over 350 uR/hr at waist level and over 850 uR/hr on ground contact.

Soil samples collected and analyzed for both radium (Ra-226/228) and uranium isotopes (U-223/234/235/238) showed that there were high levels of these radionuclides present with the soils. The maximum levels at the Brown-Vandever-Nanabah sites for radium was in excess of 260 picocuries per gram of soil (pCi/g), and for uranium, the maximum level exceeded 390 pCi/g.

Radon (Rn-222) flux measurements from waste piles at the Desiderio site revealed elevated emissions of radon gas. The average reading was 67 pCi per square meter per second.

After careful review by EPA ERS, the Office of Air and Radiation (OAR), and ATSDR, it was determined that a response action was warranted at the Sites. After several coordination meetings with several agencies, including the Department of Energy, Department of Interior's Bureaus of Indian Affairs and Land Management, it was decided that EPA should proceed with a response. DOE, which owns portions of the Brown-Vandever Site will conduct its own response on its lands pursuant to Executive Order 12580.

IV. RESPONSE INFORMATION

A. Planned Response Actions

To reduce the immediate potential radiological hazards associated with the two mine sites, ERS will conduct the following response actions:

Phase 1

For areas with frequent public and grazing use, grade and apply earth cover to effectively reduce gamma radiation emissions and potential for radionuclide migration.

Phase 2

Fill, seal and cap mine adits, inclines and ventilation shafts to reduce the migration of radon gas emissions.

Phase 3

For area with limited public use, post signs warning of radiological hazards in English, Spanish and Navajo.

A gamma guideline of 165 uR/hr (including background) was selected for areas requiring earth covering. For calculation of this guideline please refer to Action Memo.

B. Status of Actions

1. Response to Date

On August 12, 1991, OSC Bornstein assisted by ERT Radiological expert Art Ball and REAC will begin conducting a through gamma survey at the sites to define and delineate elevated gamma areas.

A site specific contract is presently being finalized by Jeri Simmons, Contracting Officer, with the Laguna Construction Company to conduct the required actions. Laguna Construction has great experience in uranium mine reclamation and is an Indian owned and operated company.

2. Enforcement

A CERCLA 106 Order was issued to Cerrillos Land Company, ATSF railroad and Santa Fe Pacific railway to conduct the response actions on the privately owned parcel of the Brown-Nanabah site (Section 19). The Respondents and EPA have a conference to discuss the Order on August 13, 1991.

EPA is pursuing the Department of Interior to assist financially with the response action.

C. Next Steps

Commence removal action at the sites, oversee both DOE and Cerrillos actions. Develop case to refer to the Department of Justice on DOI's involvement at the Sites.

D. Key Issues

EPA will pursue DOI in assisting financially with this removal action. EPA was faithfully negotiating an Interagency Agreement with DOI for several months. Finally after an acceptable agreement was achieved DOI-Washington

refused to sign the agreement. EPA will now try to develop a case and refer the information to DOJ for assistance.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

Date: August 14, 1991

From: Robert Bornstein, OSC
Emergency Response Section, Region IX

To: Director, ERD-HQ
Don White, FOB, Region IX
Polrep Distribution
EPA99002

Subject: Bluewater Uranium Mine Sites, Prewitt,
New Mexico.

Polrep: Polrep 2

II. BACKGROUND

Site No: W3 Delivery Order No: N/A(*)
Site Specific Contract

Response Authority: CERCLA NPL Status: Pending

State Notification: NMDMM and Navajo Nation notified

Action Memo: Signed and Concurred by HQ 7/26/91

III. INCIDENT INFORMATION

A. Incident Category
Abandoned unreclaimed uranium mines

B. SITUATION

1. Site Description

Three abandoned uranium mine sites, the Brown-Vandever, Brown-Nanabah and Navajo-Desiderio Mines make up the Bluewater Uranium Mine Sites. The Sites are located approximately five miles west of Prewitt, New Mexico and lie within the Grants Uranium Mining District.

The Brown-Vandever and Brown-Nanabah mines are located on four parcels of land which includes two Indian Allotment parcels, one Federal parcel administered by the Department of Energy and one privately owned parcel. The Brown-Vandever site encompasses approximately 100 acres and the Brown-Nanabah site is approximately 55 acres. Half of this area has been disturbed and scarred as a result of open pit mining of uranium. The Desiderio site covers approximately 130 acres with approximately 60 acres disturbed by mining activities.

Several families live and work on both sites. Approximately forty people, including children, live at the Brown-Vandever and Brown-Nanabah sites. About thirty people live within a half mile of the Desiderio site. The land is primarily utilized for livestock (sheep) grazing.

Presently, there are no restrictions preventing the local population or livestock access to the mine tailings and overburden.

C. PRELIMINARY ASSESSMENT RESULTS

In November of 1990, EPA ERS assisted by OAR conducted a preliminary geochemical/georadiological survey of the Sites. Background gamma radiation readings near the affected sites ranged from 10-15 microroentgens per hour (uR/hr). Readings at ground level within the Brown-Vandever and Brown-Nanabah Sites ranged from 13 uR/hr at the homes to 1250 uR/hr within stripped mine pits and 10 uR/hr to 650 uR/hr at waist levels, respectively. Overall, gamma reading within the scared mined areas were recorded to be 300 uR/hr at ground and waist level reading above 200 uR/hr. At the Desiderio site, the net radiation levels ranged from background to over 350 uR/hr at waist level and over 850 uR/hr on ground contact.

In addition to conducting a gamma survey, soil samples were collected and analyzed for both radium (Ra-226/228) and uranium isotopes (U-223/234/235/238). Sampling data revealed that there were high levels of these radionuclides present with the soils.

At the Nanabah site, radium was in excess of 260 picocuries per gram of soil (pCi/g), and for uranium, the maximum level exceeded 390 pCi/g. Radon (Rn-222) flux measurements from waste piles at the Desiderio site revealed elevated emissions of radon gas. The average reading was 67 pCi per square meter per second.

The National Counsel of Radiation Protection and Measurements recommends that populations for infrequent exposures should not exceed 500 mrem/yr. To stay within this recommended guideline, populations should not be exposed to excess gamma radiation of 100 mrem/yr. Population within the sites areas exceeding 165 uR/hr (excluding background) for two hours a day for 300 days will exceed the NCRP guidelines.

IV. RESPONSE INFORMATION

A. Planned Response Actions

As stated this site falls within four parcels of land. EPA has ordered Santa Fe Pacific railway, ATSF, and Cerrillos Land Company to conduct the response on Section 19 of the Brown-Vandever-Nanabah sites. EPA will conduct response actions of Section 18 and 24 and the DOE is responsible for actions on Section 13. EPA will also be conducting the response actions at the Desiderio Mine Site.

PLANNED ACTIVITIES

- * Conduct field gamma survey

- * For areas with frequent public and grazing use, grade and apply earth cover to effectively reduce gamma radiation emissions and potential for radionuclides migration.

- * Phase 2

Fill, seal and cap mine adits, inclines and ventilation shafts to reduce the migration of radon gas emissions.

- * Phase 3

For area with limited public use, post signs warning of radiological hazards in English, Spanish and Navajo.

A gamma guideline of 165 uR/hr (including background) was selected for areas requiring earth covering. For calculation of this guideline please refer to Action Memo.

B. Status of Actions

1. Response to Date

August 13, 1991

- * Arrived on Site, OSC Bornstein briefed Art Ball, ERT Radiation expert, Steve Dean, OAR Region IX, and REAC of site history, safety plan, and toured affected areas. After orientation meeting, OSC Bornstein, Navajo Superfund personnel and REAC began delineating 50 ft X 50 ft survey grid using compass and tape measure on section 24, Brown-Vandever site.

- * Steve Dean, OAR and Art Ball, ERT began recording background readings and calibrating instruments.

- * Tim Leftwitch and Paul Eby from Santa Fe Pacific Minerals arrived on site to discuss some technical issues concerning EPA Order 91-16 regarding Section 19. Several issues were resolved concerning the expected workplan and safety plan.

- 1) Workplan should be detailed and include qualifications of contractors

- 2) Safety plan should address off-site migration, physical hazards, OSHA regulations

- 3) Weekly reports could be one page bullets of information.

- * A problem was detected between EPA's calibrated ludlum instruments and Santa Fe's. Santa Fe's instruments were reading lower values than EPA's. To resolve this

discrepancy, OAR Steve Dean requested a Reuters Stokes RS1-11 pressurized ionization chamber in order to field calibrate all the instruments. Steve Dean received excellent assistance from Roger Shura, OAR Las Vegas for his help.

This field device takes extremely accurate gamma readings and will be utilized in the field to calibrate both EPA's and Santa Fe's Ludlum 19 instruments.

* OSC Bornstein, OAR Steve Dean and ORC Linda Wandres met with Santa Fe Officials to discuss provisions within the Order.

- 1) EPA and Santa Fe agreed upon the use of the PIC to standardize field meters.
- 2) It was agreed for post surveying, a one meter height reading will be used.
- 3) Cerrillos Land Company will be the lead Santa Fe Pacific representative coordinating actions on Section 19, Brown-Vandever.
- 3) Cerrillos will acquire access agreement with surface owners. If this is a problem, they have requested EPA assistance.
- 4) EPA has agreed that Cerrillos may utilize access cover material on section 24.
- 5) OSC Bornstein reaffirmed that EPA was overseeing the removal action and not the Navajo Superfund Program. All direction will be given by the OSC.

Santa Fe Pacific Minerals is concerned that the Navajo Superfund Program is stretching their jurisdiction. OSC Bornstein informed them to write to EPA stating their problems and concerns. OSC Bornstein stated that EPA can not guarantee that the sites will not be placed on the NPL but all actions taken during the response will be considered. He advised Santa Fe to take appropriate measures to reduce radon emissions and to conduct post sampling tests such as radon flux measurements and analytical sampling.

* OSC Bornstein contacted Ray Churan, DOI to gain access agreements from BIA on Sections 18, 24 Brown-Vandever and the Desiderio site. Steve Dean, assisting OSC Bornstein, contacted Will Bowmen, District BIA Manager BIA, to request a letter granting access. Mr. Bowmen stated he would draft a letter and submit to OSC Bornstein.

C. Next Steps

- * Continue conducting grid and survey

- * Draft letter to Santa Fe Pacific and Cerrillos concerning results of meeting

- * Expecting Cerrillos workplan on August 23, 1991

- * EPA's earthmoving activities are planned to begin August 19, 1991.

D. Key Issues

- * Pursuing DOI in assisting EPA financially in response.

- * Overseeing Cerrillos under EPA Order 91-16.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

Date: August 17, 1991

From: Robert Bornstein, OSC
Emergency Response Section, Region IX

To: Director, ERD-HQ
Don White, FOB, Region IX
Polrep Distribution
EPA99002

Subject: Bluewater Uranium Mine Sites, Prewitt,
New Mexico.

Polrep: Polrep 3

II. BACKGROUND

Site No: W3

Delivery Order No: N/A(*)
Site Specific Contract

Response Authority: CERCLA NPL Status: Pending

State Notification: NMDMM and Navajo Nation notified

Action Memo: Signed and Concurred by HQ 7/26/91

III. INCIDENT INFORMATION

A. Incident Category

Abandoned unreclaimed uranium mines

B. SITUATION

1. Site Description

The Bluewater Uranium Mine Sites occupy three abandoned uranium mine sites, the Brown-Vandever, Brown-Nanabah and Navajo-Desiderio Mines. The Sites are located approximately five miles west of Prewitt, New Mexico and lie within the Grants Uranium Mining District. The Brown-Vandever and Brown-Nanabah mines are located on four parcels of land which includes two Indian Allotment parcels (Section 18, 24), one Federal parcel administered by the Department of Energy (Section 13) and one privately owned parcel (Section 19). The Brown-Vandever site encompasses approximately 100 acres and the Brown-Nanabah site is approximately 55 acres. Half of this area has been disturbed and scared as a result of open pit mining of uranium. The Desiderio site covers approximately 130 acres with approximately 60 acres disturbed by mining activities.

Approximately forty people, including children, live at the Brown-Vandever and Brown-Nanabah sites. About thirty people live within a half mile of the Desiderio site. The land is primarily utilized for livestock (sheep) grazing.

Currently, there are no restrictions preventing the local population or livestock access to the mine tailings and overburden.

C. PRELIMINARY ASSESSMENT RESULTS

ERS, assisted by OAR conducted a preliminary geochemical and georadiological assessment in November of 1990. Below is a summary of the results:

- * gamma radiation readings near the affected sites ranged from 10-15 microroentgens per hour (uR/hr).

- * Readings at ground level within the Brown-Vandever and Brown-Nanabah Sites ranged from 13 uR/hr at the homes to 1250 uR/hr within stripped mine pits and 10 uR/hr to 650 uR/hr at waist levels, respectively.

- * Overall, gamma reading within the scared mined areas were recorded to be 300 uR/hr at ground and waist level reading above 200 uR/hr.

- * At the Desiderio site, the net radiation levels ranged from background to over 350 uR/hr at waist level and over 850 uR/hr on ground contact.

- * Soil samples were collected and analyzed for both radium (Ra-226/228) and uranium isotopes (U-223/234/235/238). Sampling data revealed that there were high levels of these radionuclides present with the soils.

- * At the Nanabah site, radium was in excess of 260 picocuries per gram of soil (pCi/g), and for uranium, the maximum level exceeded 390 pCi/g.

- * Radon (Rn-222) flux measurements from waste piles at the Desiderio site revealed elevated emissions of radon gas. The average reading was 67 pCi per square meter per second.

IV. RESPONSE INFORMATION

A. Planned Response Actions

As stated this site falls within four parcels of land. EPA has ordered Santa Fe Pacific railway, ATSF, and Cerrillos Land Company to conduct the response on Section 19 of the Brown-Vandever-Nanabah sites. EPA will conduct response actions on Section 18 and 24 and the DOE is responsible for actions on Section 13. EPA will also be conducting the response actions at the Desiderio Mine Site.

PLANNED ACTIVITIES

- * Conduct field gamma survey

- * Laguna construction will reclaim affected areas.

B. Status of Actions

1. Response to Date

August 14-17, 1991

* OAR Steve Dean, ERT Art Ball and REAC Jerry Gils conducted an extensive gamma survey on Section 24. Readings ranged from below 30 uR/hr to highs of 1000 uR/hr. Extensive areas of "clean" fill were delineated. The data was then entered into surfer 4.06 to make a contour map.

* OSC Bornstein, TAT, REAC and Navajo Superfund personnel laid a 50 foot by 50 foot grid on Section 18. The terrain on this section is a lot flatter and work seemed to go a lot quicker. No snakes were encountered.

* Laguna Construction crews conducted an extensive elevation survey over Section 24. A contour map will be constructed from the data. In addition, Laguna Construction submitted its final proposal package to EPA.

* Santa Fe Pacific Minerals has begun conducting its gamma survey on Section 19.

* To calibrate all of the field ludlums, a Photo Ionization Chamber was brought on site. Several station points were used to calibrate the ludlums.

* Work has been quite hard, walking in rough terrain, and hot sunny weather. Logistically, the sites are quite remote and therefore, it is hard to keep in touch with the office. To email reports, I have to drive 45 minutes to reach a phone that I can utilize to use All-in-One. TAT will be demobed on 8/18/91.

C. Costs to Date

Project Ceiling set at \$621,000
a Construction Ceiling \$302,000
TAT Ceiling set at \$ 36,000
Other contractor (REAC) set at \$65,000

D. Next Steps

- * Continue conducting grid and survey
- * Expecting Cerrillos workplan on August 23, 1991
- * EPA's earthmoving activities are planned to begin August 19, 1991.

E. Key Issues

- * Pursuing DOI in assisting EPA financially in response.
- * Overseeing Cerrillos under EPA Order 91-16.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

Date: August 24, 1991

From: Robert Bornstein, OSC
Emergency Response Section, Region IX

To: Director, ERD-HQ
Don White, FOB, Region IX
Polrep Distribution
EPA99002

Subject: Bluewater Uranium Mine Sites, Prewitt,
New Mexico.

Polrep: Polrep 4

II. BACKGROUND

Site No: W3

Delivery Order No: N/A(*)
Site Specific Contract

Response Authority: CERCLA NPL Status: Pending

State Notification: NMDMM and Navajo Nation notified

Action Memo: Signed and Concurred by HQ 7/26/91

III. INCIDENT INFORMATION

A. Incident Category

Abandoned unreclaimed uranium mines

B. SITUATION

1. Site Description

As discussed in previous Polreps, the Bluewater Uranium Mine Sites occupy the Brown-Vandever, Brown-Nanabah and Navajo-Desiderio Mines. The Sites lie approximately 5 miles west of Prewitt, New Mexico. Brown-Vandever and Brown-Nanabah mines are located on four parcels of land which includes two Indian Allotment parcels (Section 18, 24), one Federal parcel administered by the Department of Energy (Section 13) and one privately owned parcel (Section 19). by mining activities.

Several families reside on-site and daily enter mined areas containing large volumes of elevated gamma emitting uranium protore and waste.

C. PRELIMINARY ASSESSMENT RESULTS

- * Elevated gamma radiation up to 1.8 mR/hr

- * Soil samples were collected and analyzed for both radium (Ra-226/228) and uranium isotopes (U-223/234/235/238). Sampling data revealed that there were high levels of these radionuclides present with the soils.

- * At the Nanabah site, radium was in excess of 260 picocuries per gram of soil (pCi/g), and for uranium, the maximum level exceeded 390 pCi/g.

- * Radon (Rn-222) flux measurements from waste piles at the Desiderio site revealed elevated emissions of radon gas. The average reading was 67 pCi per square meter per second.

IV. RESPONSE INFORMATION

A. Planned Response Actions

- * Cover affected mine waste and protore with clean-fill to reduce the amount of radon and gamma emissions.

- * Order and enforce Santa Fe Pacific Minerals and its sister companies to clean-up section 19

PLANNED ACTIVITIES

- * Conduct field gamma survey (COMPLETED)

- * Laguna construction will reclaim affected areas. (COMMENCED 8/19/91)

- * Revegetate reclaimed areas

B. Status of Actions

1. Response to Date

August 19-24, 1991

- * Laguna Construction mobilized and began earthmoving activities. Three DBN tractors were transported to the site. In addition, fuel tanks, mechanic truck, lunch room and port-o-pit were mobilized.

- * The DBNs began earthmoving actions on the western portion of Section 24. It is unlikely that additional clean fill will be warranted. The waste pilings appear to contain a sufficient amount of clean residuum and soil

- * Santa Fe Pacific Minerals continues to conduct its gamma survey on Section 19.

- * Art Ball, ERT assisted by REAC and the Navajo Superfund have completed an extensive gamma survey at the Desiderio site. The data will be entered into Surfer 4.06 to form a contour map.

- * Laguna Construction and EPA are working closely to

ensure that the proper amount of soil is placed on the prototype to effectively reduce emissions. It is the opinion of OSC Bornstein and Laguna Construction that a foot of soil will be effective. It is unlikely that these sites will score on the NPL after completion of the removal action.

By August 26, 1991, Section 24 should be completed. All gamma readings below 50 uR/hr!!!!!!

C. Costs to Date

Project Ceiling set at \$621,000
a Construction Ceiling \$302,000
TAT Ceiling set at \$ 36,000
Other contractor (REAC) set at \$65,000

RCMS has been utilized to track this project. It has been slightly modified since this is a site specific contract:

Laguna Construction as of 8/23/91
\$31,142.17 Remaining \$275,896.63 90%

TAT Costs
\$ 6,155.95 Remaining \$ 56,844.00 90%

REAC Costs
\$15,717.00 Remaining \$ 20,000.00

EPA Costs
\$26,293.00

D. Next Steps

- * Continue conducting grid and survey
- * Expecting Cerrillos workplan on August 23, 1991

E. Key Issues

- * Pursuing DOI in assisting EPA financially in response.
- * Overseeing Cerrillos under EPA Order 91-16.

HASTA LA VISTA BABY!!!!!!

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

Date: August 31, 1991

From: Robert Bornstein, OSC
Emergency Response Section, Region IX

To: Director, ERD-HQ
Don White, FOB, Region IX
Polrep Distribution
EPA99002

Subject: Bluewater Uranium Mine Sites, Prewitt,
New Mexico.

Polrep: Polrep 5

II. BACKGROUND

Site No: W3

Delivery Order No: N/A(*)
Site Specific Contract

Response Authority: CERCLA NPL Status: Pending

State Notification: NMDMM and Navajo Nation notified

Action Memo: Signed and Concurred by HQ 7/26/91

III. INCIDENT INFORMATION

A. Incident Category
Abandoned unreclaimed uranium mines

B. SITUATION

1. Site Description

The Bluewater Uranium Mine Sites occupy the Brown-Vandever, Brown-Nanabah and Navajo-Desiderio Mines. The Sites lie approximately 5 miles west of Prewitt, New Mexico. Brown-Vandever and Brown-Nanabah mines are located on four parcels of land which includes two Indian Allotment parcels (Section 18, 24), one Federal parcel administered by the Department of Energy (Section 13) and one privately owned parcel (Section 19).

Several families reside on-site and daily enter mined areas containing large volumes of elevated gamma emitting uranium protore and waste.

C. PRELIMINARY ASSESSMENT RESULTS

* Elevated gamma radiation up to 1.8 mR/hr

* Soil samples were collected and analyzed for both radium (Ra-226/228) and uranium isotopes (U-223/234/235/238). Sampling data revealed that there were high levels of these radionuclides present with the soils.

* At the Nanabah site, radium was in excess of 260 picocuries per gram of soil (pCi/g), and for uranium, the maximum level exceeded 390 pCi/g.

* Radon (Rn-222) flux measurements from waste piles at the Desiderio site revealed elevated emissions of radon gas. The average reading was 67 pCi per square meter per second.

IV. RESPONSE INFORMATION

A. Planned Response Actions

* Cover affected mine waste and protore with clean-fill to reduce the amount of radon and gamma emissions.

* Order and enforce Santa Fe Pacific Minerals and its sister companies to clean-up section 19

PLANNED ACTIVITIES

* Conduct field gamma survey (COMPLETED AT ALL SITES)

A 50 foot by 50 foot grid was utilized to further delineate the effective zones. Thank to all the help provided by OAR representative Steve Dean, ERT, REAC and TAT.

* Laguna construction will reclaim affected areas.
(COMMENCED 8/19/91)

Presently, Laguna Construction has completed reclamation on Section 24 (approximately 15 acres) and will complete Section 18 by August 31. Desiderio mobilization will occur on 7/2/91.

* Revegetate reclaimed areas
Planned for Mid-September

B. Status of Actions

1. Response to Date
August 24-31, 1991

* Laguna Construction utilizing three D8N tractors, a D6N and a 14G road grader have successfully reclaimed Section 24 and 18 of the Brown-Vandever-Nanabah sites. Laguna Construction has been a pleasure to work with and this OSC highly recommends their work!!!!

* A post reclamation gamma survey was conducted by EPA, ERT and REAC on Section 24. A 50 foot grid survey was used. The average reading over the reclaimed area was 28.03 uR/hr (including background of 15 uR/hr). The highest value was 57

uR/hr).

The results of the post survey indicate that population frequenting the area spending 2 hours a day for 300 days out of the year (risk assessment assumptions) would receive an excess gamma exposure of 7.8 mrem/yr.

(28 uR/hr - 15 uR/hr) * 300 days/year * 24 hours/day
1 mrem = 1R with gamma radiation, 1000 uR/hr = 1 mR/hr

The National Counsel of Radiation Protection (NCRP) recommends for infrequent exposure or short term, a population should not exceed 500 mrem/yr excess radiation from all sources (gamma, ingestion...etc). To achieve this goal, populations should be restrict from receiving 100 mrem/yr excess gamma radiation.

The post removal gamma readings ensure that the population frequenting the reclaimed areas are in no danger of exceeding the NCRP infrequent exposure guidelines. In fact, the gamma radiation values have been so greatly reduced that in nearly 75% of the reclaimed zone, the NCRP guideline for frequent exposure [24 hours a day] which is set at 100 mrem/yr from all sources is achievable.

**** Therefore, it is unlikely that any further action is warranted on the reclaimed land following this removal action. ****

* Santa Fe Pacific Minerals has stated its intentions to comply with EPA's 106 Order to conduct response actions on Section 19.

* On August 29, 1991, several government officials of the Navajo Nation and the media toured the site.

C. Costs to Date

Project Ceiling set at \$621,000
a Construction Ceiling \$302,000
TAT Ceiling set at \$ 36,000
Other contractor (REAC) set at \$65,000

RCMS has been utilized to track this project. It has been slightly modified since this is a site specific contract:

Laguna Construction as of 8/23/91		
\$66,094.17	Remaining	240,944.63 78%
TAT Costs		
\$ 6,155.95	Remaining \$	56,844.00 90%
REAC Costs		
\$22,217.00	Remaining \$	12,000.00

EPA Costs
\$37,000.00

D. Next Steps

Conduct response actions on Desiderio
Reseed effective zones
Monitor PRPs on response actions

E. Key Issues

- * Pursuing DOI in assisting EPA financially in response.
- * Overseeing Cerrillos under EPA Order 91-16.

YATA HAY (HELLO) EVERYONE

E P A E L E C T R O N I C M A I L M E S S A G E

Date: 03-Nov-1992 01:37pm EST
From: ROBERT BORNSTEIN
BORNSTEIN.ROBERT
Dept: (REG,09,HWMD) (E)
Tel No: 415-744-2298

TO: See Below

Subject: POLREP 1, BLUEWATER DOE PARCEL, NAVAJO NATION, NM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
POLLUTION REPORT

DATE: November 3, 1992

FROM: Robert Bornstein
On-Scene-Coordinator (H-8-3)

TO: Jeff Zelikson, Director
Hazardous Waste Management Division

INFO: POLREP Distribution

SUBJECT: Department of Energy Bluewater Parcel, Navajo Nation, NM

POLREP: Initial (1)

I. SITE INFORMATION

Site No: 6M
Response Authority: CERCLA and Executive Order 12580
NPL Status: Not Listed
Start Date: 11/6/92
Delivery Order: Not applicable, Site Specific Contract
Action Memo: Signed 10/26/92

II. BACKGROUND

The Bluewater Uranium Mine Sites are composed of the Brown-Vandever, Brown-Nanabah, and Navajo Desiderio mines. The Sites are located approximately five miles west of Prewitt, New Mexico and lie within the Grants Uranium Mining District. The Brown-Vandever and Brown-Nanabah mines are located on four parcels of land which include two Indian Allotment parcels (Section 18 and 24, Township 13 North, Range 11 West, McKinley County, New Mexico), one Federally administered parcel held by the Department of Energy (DOE) (Section 13), and one privately owned parcel (Section 19).

In 1990, ERS was requested by ATSDR to conduct a preliminary assessment at the Site to determine if they present an immediate health hazard to the local population. After careful review of the assessment data, it was concluded that EPA should proceed with a response. DOE, pursuant to the National Contingency Plan (NCP) and Executive Order 12580, assumed the responsibility to conduct the necessary response actions on its parcel.

On August 11, 1991, EPA Emergency Response began conducting the mine reclamation actions on the two Indian Allotments (Sections 18 and 24). In addition, EPA ordered the Santa Fe Pacific Railroad Company and two other PRPs to conduct response actions on their portion of the Bluewater Sites (Section 19). By November 1, 1992, EPA, through its contractor, Laguna Construction, had successfully reduced on-site gamma radiation and radionuclide levels on Sections 18 and 24 to "natural" or background conditions. By mid-November, the Santa Fe Pacific Railroad PRPs had also completed their response action, which effectively reduced the gamma emissions and radionuclides to levels protective of public health and safety. ATSDR concurred that the response actions taken by EPA and the Santa Fe Pacific Railroad PRP group were protective of public health.

In July of 1991, DOE informed the lessee of the mineral rights to the DOE parcel, Todilto Development and Exploration Corporation (Todilto), of its potential liability at the Site. In addition, DOE requested that Todilto undertake the appropriate corrective actions at the Site, as prescribed by EPA's Action Memorandum dated June 7, 1991. The president of Todilto, George Warnock, took exception to the corrective action plan and refused to perform the necessary response actions.

Because of George Warnock's unwillingness to perform the necessary response actions, DOE had its prime contractor, GeoTech, develop a cost proposal and plan of action. On October 25, 1991, a letter was forwarded to George Warnock advising him that the performance bond on Todilto's lease was being increased to \$200,000, and that, in addition, Todilto was in arrears for past due minimum royalty payments totalling approximately \$40,000.

In a strongly worded November 18 letter to DOE, George Warnock indicated that he would not post the additional performance bond or pay \$40,000 in past royalties as demanded by DOE. He asserted that DOE would "use the ruse of the increased bond to force Todilto off the property" and indicated Todilto's only recourse to such an action would be through litigation.

Thereafter, on December 30, 1991, DOE determined that George Warnock and Todilto were in serious breach of their lease for the Site and thus ordered the lease canceled. Pursuant to the disputes provision of the lease, George Warnock appealed the DOE contracting officer's decision to the Department's Board of Contract Appeals on January 16, 1992.

During February and March of 1992, DOE and George Warnock filed preliminary pleadings with the Board of Contract Appeals. Thereafter, the parties discussed, but could not agree upon potential terms of settlement.

In an order dated May 20, 1992, the Board of Contract Appeals recognized that the parties' settlement efforts up to that time had been fruitless. As a result, the Board then set a timetable for discovery and the filing of motions, in an effort to move toward a hearing on the matter. However, even at that time, the Board directed that the parties continue their ongoing settlement discussions.

Since mid-1991, EPA and the Navajo Nation have continued to request periodically that DOE undertake the necessary action to resolve its complex legal problems with Todilto, and thereafter, undertake the appropriate response actions at the Bluewater Site. However, to date no reclamation action has been initiated on the DOE parcel (Section 13).

On October 2, 1992, Dan McGovern, EPA Region IX, Regional Administrator, met with James Bickel, DOE Albuquerque Office Manager, at the Site to discuss the response situation. At this meeting, EPA was informed that the DOE Board of Contract Appeals had finally dismissed the claim by George Warnock, pursuant to a Settlement Agreement between the parties dated August 8, 1992. EPA was further informed at that time that DOE was prepared to financially commit to the reclamation project. It was concluded by the two leaders that a response action could not be delayed any further, and that it was in the Government's best interest to perform the task before the onset of winter.

Pursuant to the preamble to the NCP, Federal Register, Volume 55, Number 46 (page 8674), federal agencies which have been delegated the responsibility for implementing the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, may authorize other federal agencies to perform certain tasks through interagency agreements or contracts.

Pursuant to Executive Order 12580, the DOE is responsible for undertaking and performing all CERCLA removal actions with respect to releases or threatened releases where either the release or the sole source of the release is from any facility that is under the jurisdiction, custody or control of the Department. In this case, DOE has acknowledged that the parcel in question is under its jurisdiction, custody or control.

In January of 1992, DOE proposed to enter into an Interagency Agreement (IAG) with EPA for the conduct of the removal action at the DOE Bluewater parcel. Under such an agreement, EPA, through its contractor, would perform the response action at the Site (given EPA's expertise in this area),

while DOE would be responsible for transferring funds to EPA through the IAG to pay for the response. DOE believes that it is in the federal Government's best interest to allow EPA to perform the response for the following reasons:

- 1) EPA gained invaluable experience and knowledge in conducting the necessary actions during its response on the neighboring parcels. EPA would not have to spend much time or resources preplanning the response and has knowledge of the area's geology and geomorphology. Therefore, the response action would not be further delayed.
- 2) DOE would be required to utilize its prime contractor, Geotech, to oversee and subcontract the reclamation actions. Cost estimations by DOE reveal that by utilizing EPA's resources, the federal government would save a significant amount of taxpayer funds.

Under the terms of the IAG, EPA would act as DOE's agent and be responsible to contract, manage and oversee the reclamation actions on the DOE property. DOE would be responsible for paying all of EPA's incurred costs associated with the project and would assume all long term environmental responsibilities with regard to the parcel in question.

III. CURRENT ACTIONS

On October 26, 1992, the Interagency Agreement between EPA and DOE was executed. Thanks to the tremendous amount of effort and dedication by EPA Region IX's Budget, Accounting and Contracting staff, the reimbursable account numbers and site specific contract were prepared and formalized by November 3, 1992.

The EPA is prepared to conduct the following tasks on the Department of Energy parcel (all specified actions are consistent with EPA's Action Memorandum approved July 26, 1991 and DOE's Directives and Action Memorandum):

- 1) EPA will conduct a 50 X 50 foot gamma survey using Ludlum 19 instruments to delineate and define elevated gamma radiation areas. Contour maps will be generated from the data. Gamma readings will be collected from both waist and ground levels.
- 2) Topsoil and clean fill material will be utilized within the DOE property and, if necessary, purchased from adjacent property, to cover all areas of elevated gamma radiation (150 uR/hr above background). Covered areas will be graded, sloped (3 to 1) and revegetated to withstand natural erosion. Engineering drainage controls will be installed, if necessary, to reduce erosion.

- 3) All open adits will be backfilled with protore (using DOE specifications outlined in DOE Plan, 1/24/92) and then sealed with a concrete wall. Overburden material will be contoured and sloped to avoid reopening of the mine opening.
- 4) Mine vent shafts will be plugged with concrete and backfilled to grade.
- 5) All disturbed areas will be revegetated with natural grasses and sloped to resist erosion. Radiological hazard warning signs will be posted on the reclaimed zones advising local residents to avoid disturbing the protective covering. The signs will be in English, Spanish and Navajo.
- 6) All work will be conducted in accordance with the approved EPA Region IX Health and Safety Plan dated 7/26/91. EPA shall provide air monitoring to ensure adequate worker safety.
- 7) EPA will provide biweekly progress reports in the form of Pollution Reports (Polreps) to the DOE. At the completion of the project EPA will provide DOE with a copy of the OSC report. EPA will also submit to the DOE a detailed report of incurred costs.
- 8) EPA will conduct a post-response 50' by 50' gamma survey to ensure that all areas exceeding 150 uR/hr above background have been properly reduced to DOE specifications. EPA will conduct post-removal soil sampling to ensure that soil radium concentrations do not exceed the standard of 5 pCi/g, as stated in 40 CFR Part 192.

To accomplished these tasks, EPA is prepared to contract with the Laguna Construction Company. It is anticipated that the response action will take 10-14 days to complete.

IV. ESTIMATED COSTS

The Laguna Construction Company has submitted a proposal to complete the necessary tasks at \$231,978.00. EPA expects to incur a cost of approximately \$25,000.

V. Case Pends

To contact OSC Bornstein, please call 415-744-2298 and leave a voice message.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
POLLUTION REPORT

DATE: November 15, 1992

FROM: Robert Bornstein
On-Scene-Coordinator (H-8-3)

TO: Jeff Zelikson, Director
Hazardous Waste Management Division

INFO: POLREP Distribution

SUBJECT: Department of Energy Bluewater Parcel, Navajo Nation, NM

POLREP: Two (2)

I. SITE INFORMATION

Site No: 6M

Response Authority: CERCLA and Executive Order 12580

NPL Status: Not Listed

Start Date: 11/6/92

Delivery Order: Not applicable, Site Specific Contract

Action Memo: Signed 10/26/92

II. BACKGROUND

(See Polrep 1)

The Bluewater Uranium Mine Sites are composed of the Brown-Vandever, Brown-Nanabah, and Navajo Desiderio mines. The Sites are located approximately five miles west of Prewitt, New Mexico and lie within the Grants Uranium Mining District. The Brown-Vandever and Brown-Nanabah mines are located on four parcels of land which include two Indian Allotment parcels (Section 18 and 24, Township 13 North, Range 11 West, McKinley County, New Mexico), one Federally administered parcel held by the Department of Energy (DOE) (Section 13), and one privately owned parcel (Section 19).

In 1991, ATSDR requested EPA's assistance in evaluating the radiological hazards associated with the mine sites. An ATSDR health advisory was issued and EPA emergency response conducted a preliminary assessment and removal action on the Indian Allotment parcels and ordered a group of responsible parties to conduct the necessary reclamation actions on the privately owned parcel. DOE assumed responsibility of these parcel.

A lengthy legal battle between DOE and its mineral lessee caused a delay in action on this parcel of land. Finally, in September of 1992, the legal concerns were resolved.

Pursuant to the preamble to the NCP, Federal Register, Volume 55, Number 46 (page 8674), and Executive Order 12580, the DOE requested EPA assistance in performing the necessary response actions.

On October 26, 1992, the Interagency Agreement between EPA and DOE was executed. Thanks to the tremendous amount of effort and dedication by EPA Region IX's Budget, Accounting and Contracting staff, the reimbursable account numbers and site specific contract were prepared and formalized by November 3, 1992.

II. CURRENT ACTIONS

On Site weather has been mixed with snow, rain and sunshine. Temperatures range from 20 degrees during the morning to highs in the 50's afternoon.

1) On November 6, 1992, EPA Region IX issued a site specific contract to Laguna Construction to conduct the reclamation action. Laguna Construction, an Indian owned and operated enterprise of the Laguna Indian Tribe, was selected once again by EPA Region IX. They were utilized during the EPA's response action in 1991.

2) DSC Bornstein and ERT Radiation Specialist Arthur Ball completed a pre-reclamation 50' X 50' gamma survey over the DOE parcel. Reading as high as 3 mR/hr were recorded. The majority of the Site recorded a gamma reading of 160-200 uR/hr. Background in the area ranges from 10-30 uR/hr.

3) Laguna Construction mobilized the following equipment on Monday, November 9, 1992:

- * 3 D8N Caterpillar Tractors
- * 1 14G Motor Grader
- * 1 D5HX Caterpillar Tractor
- * 1 980C Front End Loader
- * 1 Fuel Truck and 1 Repair Truck
- * Concrete work crew

The crew began to complete the following tasks:

* Close all open vertical adits and vents by 1) excavating to a depth of 6 feet, 2) filling up the holes with waste ore and debris, 3) setting a concrete plug 1 foot thick at depth, and 4) backfilling to grade. The main portal was also filled by 1) removing the first three sections of timber, 2) backfilling portal up to 20 feet with rock and protore, 3) constructing a 1 foot reinforced concrete wall in front of portal and 4) sloping approximately 10 feet of fill in front of opening.

* Dozers and heavy equipment begin to level off protore piles and sloping the site to a 3 to 1 and in places 4 to 1 slope. Began excavating and redirecting drainage patterns on site in order for rain runoff to flow away from protore piles.

By November 14, 1992, all of the concrete work was completed and the initial sloping by the dozers was achieved. Two 623 paddlewheel scrapers were mobilized to begin applying clean top soil on "hot" areas. Applied areas are now recording gamma values of less than 50 uR/hr. The majority of the covered areas read less than 30 uR/hr (area background).

To ensure worker protection and public safety, air monitoring for particulates and radiation is being conducted by ERT and REAC. At this time, all air monitoring stations have reported no significant migration of dust or abnormal radiation levels.

Positive news reports were written in the local papers concerning the mine reclamation and the local Navajo Community is extremely pleased with the work effort.

III. COSTS

At this time, it is estimated that EPA has incurred a cost of approximately \$81,000. The project ceiling for Laguna Construction is \$235,000. The Laguna Construction Company is a pleasure to work with! They are cost effective, timely and great operators. Site Specific contracting is the way to go on earth moving tasks!

IV. CONCERNS

EPA has faithfully tried to minimize costs during this project in order to provide the government with the best and efficient response action. This work is being conducted under an Interagency Agreement pursuant to Executive Order 12580. However, the Department of Energy has sent a contractor to oversee and observe EPA's actions. This contractor is tasked by DOE to watch and confirm the actions taken by EPA, another federal agency. In my opinion, this action by DOE is uncalled for and is embarrassing, a big waste of federal funds and possibly illegal under government contracting regulations to have a contractor provide oversight of federal workers. OSC Bornstein has requested DOE to withdraw this contractor since he can not provide any project direction and is serving no purpose but wasting tax payers money.

V. CASE STATUS

Ongoing cleanup action. The project is expected to be complete by November 23, 1992. OSC Bornstein can be reached at

415-744-2298 or at night at the Super 8 Motel, Grants, NM 505-
287-8811.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
POLLUTION REPORT

DATE: November 22, 1992

FROM: Robert Bornstein
On-Scene-Coordinator (H-8-3)

TO: Jeff Zelikson, Director
Hazardous Waste Management Division

INFO: POLREP Distribution

SUBJECT: Department of Energy Bluewater Parcel, Navajo Nation, NM

POLREP: Three (3)

I. SITE INFORMATION

Site No: 6M

Response Authority: CERCLA and Executive Order 12580

NPL Status: Not Listed

Start Date: 11/6/92

Delivery Order: Not applicable, Site Specific Contract

Action Memo: Signed 10/26/92

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(See Polrep 1)

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A lengthy legal battle between DOE and its mineral lessee caused a delay in action on this parcel of land. Finally, in September of 1992, the legal concerns were resolved.

Pursuant to the preamble to the NCP Federal Register, Volume 55, Number 46 (page 8674), and Executive Order 12580, the DOE requested EPA assistance in performing the necessary response actions.

On October 26, 1992, the Interagency Agreement between EPA and DOE was executed. Thanks to the tremendous amount of effort and dedication by EPA Region IX's Budget, Accounting and Contracting staff, the reimbursable account numbers and site specific contract were prepared and formalized by November 3, 1992.

II. CURRENT ACTIONS

- * Removal Action begins on November 9, 1992.
- * After 1 week, all mine openings are permanently sealed and pursuant to DOE specifications.
- * Mine protore piles are leveled and tied into natural slopes.
- * Massive redirection of drainage patterns undertaken by constructing large reinforced rip-rap berm.

Week of 11-15-92 to 11-22-92

On Site weather has again been mixed with snow-rain and sunshine. Temperatures range from 20 degrees during the morning to highs in the 50's afternoon.

1) Laguna Construction continues to provide outstanding service in earthmoving activities and constructing drainage channels to prevent future erosion on the site. Equipment operating during the week were:

- * 3 D8N Caterpillar Tractors
- * 1 D5HX Caterpillar Tractor
- * 1 14G Motor Grader
- * 2 623 Self-Loading Caterpillar Scrappers
- * 1 WA580 Front End Loader
- * Fuel and repair truck
- * Construction support personnel and engineer

2) Laguna Construction completes the construction of large drainage control berm. The grade within the berm was set at 1.5% to allow downgradient flow away from the earth covered protore ore debris area. The berm was reinforced using local sandstone rocks. The width of the flood control channel was made to withstand a 100 year type storm.

3) ERT and REAC continued to provide site air monitoring

support and radiation support. Protore was covered with approximately 2 feet of clean fill are recording gamma radiation levels of 18-30 uR/hr (regional background levels).

III. COSTS

At this time, it is estimated that EPA has incurred a cost of approximately \$162,000. The project ceiling for Laguna Construction is \$235,000. A change order was issued to extend the performance period of the 146 Motor Grader and increase the revegetation acreage to 30.

V. OTHER

DOE has ceased sending a contractor from GeoTech to monitor EPA's activities (See Polrep 2).

V. CASE STATUS

Ongoing cleanup action. The project is expected to be complete by November 24, 1992. OSC Bornstein can be reached at 415-744-2298 or at night at the Super 8 Motel, Grants, NM 505-287-8811.